

Title (en)
Pneumatic tire

Title (de)
Luftreifen

Title (fr)
Pneu

Publication
EP 2080643 A1 20090722 (DE)

Application
EP 08021742 A 20081215

Priority
JP 2008005568 A 20080115

Abstract (en)
Provided is a pneumatic tire in which improvement is achieved in a wet performance and reduction in vehicle exterior noise while ensuring a dry performance. The pneumatic tire has a designated fitting direction relative to a vehicle, in which four main grooves (2a-2d) extending in a circumferential direction of the tire are provided on a tread portion (1), two grooves out of these main grooves are located on each of both sides of a tire equator, five lines of land portions (10,20,30,40,50) are defined by the main grooves (2a-2d) a center land portion (10) located on the tire equator is a rib which continuously extends in the circumferential direction of the tire without being sectioned, a plurality of arcuate grooves (21,31) each extending in an arc shape are provided on each of a pair of second land sections (20,30) located respectively on both sides of the center land section, an end of each of the arcuate grooves (21,31) is connected to the main groove on an inner side of the vehicle, another end of the arcuate groove (21,31) is connected to the adjacent arcuate groove, a repeat pitch P_o of the arcuate grooves (31) on the second land portion (30) located on an outer side of the vehicle is set greater than a repeat pitch P_i of the arcuate grooves (21) on the second land portion (20) located on the inner side of the vehicle, and a proportion P_o/P_i of the pitches is set in a range from 1.5 to 3.0.
The tire has multiple circular arc grooves (21, 31) extending in the shape of a circular arc provided in a pair of convex parts (20, 30) located in both sides of a center convex part (10). An end of each circular arc groove is connected to a main groove of inner side of a vehicle. A repetition pitch of a circular arc groove (31) formed in the convex part (30) of outer side of the vehicle is larger than a repetition pitch of the circular arc groove (21) in the convex part (20) of inner side of the vehicle.

IPC 8 full level
B60C 11/03 (2006.01)

CPC (source: EP US)
B60C 11/0304 (2013.01 - EP US); **B60C 11/0309** (2013.01 - EP US); **B60C 11/0318** (2013.01 - EP US); **B60C 2011/0374** (2013.01 - EP US); **B60C 2011/0388** (2013.01 - EP US); **Y10S 152/903** (2013.01 - EP US)

Citation (applicant)
• JP H07164829 A 19950627 - YOKOHAMA RUBBER CO LTD
• JP 2007015655 A 20070125 - YOKOHAMA RUBBER CO LTD

Citation (search report)
• [A] JP H07290909 A 19951107 - BRIDGESTONE CORP
• [A] US 2005076985 A1 20050414 - COLOMBO GIANFRANCO [IT], et al
• [A] EP 1437237 A2 20040714 - SUMITOMO RUBBER IND [JP]
• [A] EP 0863026 A2 19980909 - DUNLOP GMBH [DE]
• [A] EP 1106391 A2 20010613 - SUMITOMO RUBBER IND [JP]
• [A] US 5435364 A 19950725 - HASEGAWA HIROTSUGU [JP], et al
• [A] EP 0671287 A1 19950913 - SUMITOMO RUBBER IND [JP]
• [A] EP 1676725 A1 20060705 - YOKOHAMA RUBBER CO LTD [JP]
• [A] JP 2005053311 A 20050303 - BRIDGESTONE CORP

Cited by
DE112014006530B4; EP4105040A1; DE102022204217A1; WO2023208301A1

Designated contracting state (EPC)
DE FR

Designated extension state (EPC)
AL BA MK RS

DOCDB simple family (publication)
EP 2080643 A1 20090722; **EP 2080643 B1 20100721**; CN 101486300 A 20090722; CN 101486300 B 20110330; DE 602008001866 D1 20100902; JP 2009166592 A 20090730; JP 4213197 B1 20090121; US 2009178745 A1 20090716; US 7631675 B2 20091215

DOCDB simple family (application)
EP 08021742 A 20081215; CN 200910002660 A 20090114; DE 602008001866 T 20081215; JP 2008005568 A 20080115; US 27708208 A 20081124